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Wilmington District

NCDENR

Currituck Sound Study Overview

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Currituck Sound Study Overview

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1. Previous Studies
2. Reconnaissance Study Phase
3. Feasibility Study Phase
4. Work Groups
5. Schedule and Funding

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Currituck Sound Study Overview
1. Previous Studies

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"Final Survey Report, Eastern North Carolina Above Cape Lookout, North Carolina" April 1991

- Problems identified included flooding, water quality, water supply, shoreline erosion, and declining fish and wildlife habitat in the 17-county region of Northeastern North Carolina. "….all streams flowing into the sounds of North Carolina between Cape Lookout and the Virginia Line except those portions of the Neuse, Pamlico, and Roanoke Rivers above the estuarine reaches".

- Study primarily addressed flood control problems in Belhaven, Elizabeth City, New Bern Lowland, Washington, Eastern Hyde County, Carteret County, Dare County and Windsor

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1. Previous Studies

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"Section 1135 Preliminary Restoration Plan, Virginia Beach Canal No. 2 Flood Control Project" October 1996. U.S. Army Corps of Engineers, Norfolk District

- Investigation concluded hydraulic connection existed between Lynnhaven Bay and Currituck Sound prior to construction of Canal No. 2.

- No evidence that modifying project would significantly reduce salinities in upper portion of Currituck Sound.

" The Albemarle-Pamlico Estuarine Study" U.S. EPA and State of NC

- Comprehensive Strategy for managing the deteriorating natural resources in the estuarine complex including Albemarle, Pamlico and adjoining sounds.

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2. Reconnaissance Phase

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Reconnaissance Study Started in Response to the Following Resolutions:

March 11, 1998:
"Resolved by the Committee on Transportation and Infrastructure of the United States House of Representatives, That the Secretary of the Army is requested to review the report of the Division Engineer dates June 25, 1991, on Eastern North Carolina above Cape Lookout, North Carolina, and other pertinent reports, to determine whether modifications to recommendations contained therein are advisable at the present time in the interest of water quality, environmental restoration and protection, and related purposes in Currituck Sound."

Fiscal Year 2001:
The report of the House Committee on Appropriations accompanying the Energy and Water Development Appropriations Bill, 2001, recommended funds in the amount of $100,000 for the reconnaissance phase of the Currituck Sound, North Carolina

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2. Reconnaissance Phase

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Reconnaissance Study:

<u>Existing Conditions, Problems:</u>

- Currituck is a threatened natural resource.
- As recently as 1980's, Currituck Sound supported thriving largemouth bass fishery.
- Since 1980's salinity levels have frequently exceeded the threshold for many freshwater species.
- Significant loss of Submerged Aquatic Vegetation.
- Increase in turbidity and nutrient loading.

<u>Recommendations for Feasibility Study:</u>

- Hydrodynamic flow model needed to evaluate system.
- Model would simulate inflows, outflows, wind-driven tides, and hydraulic connections to other water bodies.
- Model would be used to assess the effects of management strategies on the Sound's water chemistry, quality and resource viability.

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Currituck Sound Study Overview
2. Reconnaissance Phase
3. Feasibility Phase

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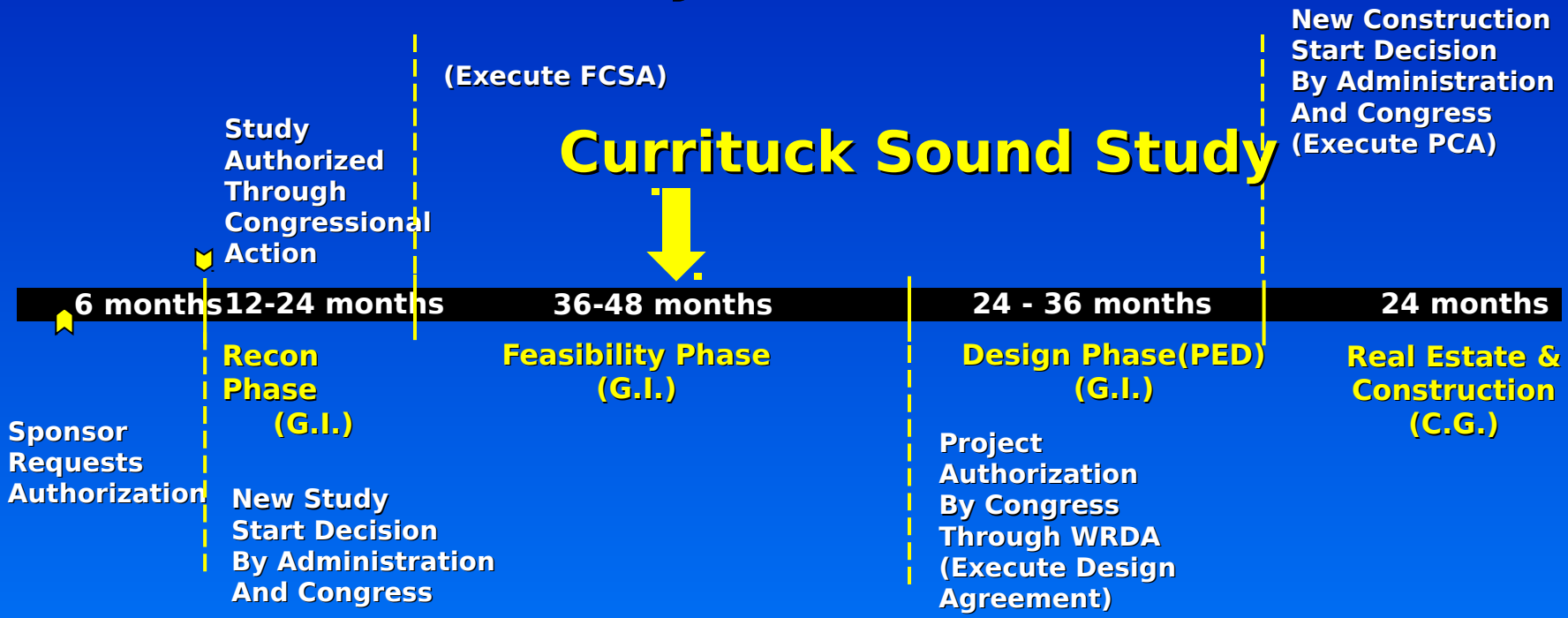
Typical Timeline for Study/Project Authorized by a Resolution or WRDA


Currituck Sound Study
Study Authorized Through Congressional Action
(Execute FCSA)
New Construction Start Decision By Administration And Congress (Execute PCA)
6 months
12-24 months
36-48 months
24 - 36 months
24 months
Sponsor Requests Authorization
Recon Phase (G.I.)
New Study Start Decision By Administration And Congress
Feasibility Phase (G.I.)
Design Phase(PED) (G.I.)
Project Authorization By Congress Through WRDA (Execute Design Agreement)
Real Estate & Construction (C.G.)

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Currituck Sound Study Overview
3. Feasibility Phase

SPONSOR: The North Carolina Department of Environment and Natural Resources (NC DENR)

COST SHARE: This project is cost shared between the U.S. Army Corps of Engineers and NC DENR. Each cost share partner pays 50% of the feasibility phase costs. The reconnaissance phase was paid for with Federal dollars.

ESTIMATED STUDY COST: $2 million

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3. Feasibility Phase

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JUL 01 – Reconnaissance Report Approved by Headquarters

AUG 01 - Draft Project Management Plan (PMP) Completed

APR 02 – Sponsor's Advisory Committee Formed

FEB 04 –Feasibility Cost Sharing Agreement Signed

JUN 04 – Funding Received & Technical Work Groups Formed

JAN 05 – Draft Scopes of Work for models and studies submitted to the Executive Committee

JUL 05 – Modeling and Some Data Collection Began

Spring 2006 – Modeling and Data Collection in Well Underway.

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3. Feasibility Phase

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Three-Phase Study Approach

Phase 1

Determine Study's:

- **Data Needs**
- **Data Gaps**
- **Costs for Data Collection**

Phase 2

- **Perform Individual Studies**
- **Establish Specific Goals & Objectives**

Phase 3

- **Develop Recommended Alternatives to meet Phase 2 Objectives**

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3. Feasibility Phase

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Study Management Structure

Executive Committee
COE Project Manager
State Study Manager
COE Planner
Hydrologic/Hydrodynamics & Water Quality Modeling Work Group
Shellfish, SAV's, Waterfowl, & Fisheries (SSWF) Work Group
Public Involvement Work Group

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Currituck Sound Study Overview
4. Work Groups

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Living Resources Work Group - Shellfish, SAVs, Waterfowl and Fisheries Work Group

Vegetation Sub-group

- SAV transects, compare existing data to Sincock data, establish habitat requirements for species of interest, side-scan sonar mapping

Completed first round of SAV transect data collection

Currently in the second round of side-scan sonar data collection

Waterfowl Sub-group

- Obtain location and population data for waterfowl communities, historic and present

Draft: Historical Populations and Long-term trends of

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4. Work Groups

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Living Resources Work Group - Shellfish, SAVs, Waterfowl and Fisheries Work Group

Fisheries Sub-group

- Analysis of fisheries to establish status and trends for fish communities.

Draft: Historical Populations and Long-term trends of Waterfowl, Fish, Threatened/Endangered Species within Back Bay, VA and Currituck Sound, NC

GIS Sub-group

- Insure logical consistency and spatial integrity of geographic data, compile necessary spatial data sets into a geo-database, and make data available to members through an internet map service.

Sincock Goes Digital, A GIS Window to the Master Surveys of The Master Surveys of the 1958-64 Back Bay Currituck Sound

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4. Work Groups

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Hydrologic/Hydrodynamic and Water Quality Monitoring and Modeling Group

Monitoring Sub-group

- **Gage Installation, Data Collection, Data Processing**

  USGS website – processed data

Modeling Sub-group

Task 1 – Regional and Local HM and WQ Grid Development, Linkage and Testing

Latest Deliverable - Draft Task 1 Progress Report: Development of Coupled Hydrodynamic and Water Quality Models of Currituck Sound and Vicinity

Task 2 – Scenario Development and Simulations

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Currituck Sound Feasibility Study

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Public Involvement Work Group

Work Group Objectives:

Keep the Public & Decision-Makers aware of each other's activities, desires, needs, and concerns

- **Request:**

- Historical Information & Records
- Fishing & Hunting Logbooks
- Old Photographs & Maps of the Sound & Shoreline

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5. Schedule and Funding

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Schedule:

WQ Data Collection - July 2007

Vegetation, Waterfowl, Fisheries Data Collection – August 2007

Identification of Alternatives (potential project areas) – October 2007

IWR-Plan – Cost and Habitat Units Output per Alternative – December 2007

National Environmental Restoration Plan - February 2008

Alternative Formulation Briefing (AFB) Package - June 2008

Draft Feasibility Report/ Env Impact Statement (EIS) – September 2008

Peer Review/ ITR – December 2008

Division Commander's Notice – March

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5. Schedule and Funding

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Funding:

General Investigation Funding Feasibility Phase

	Optimal Scenario	Current Scenario
FY04/FY05	24%	24%
FY06	30%	15%
FY07	30%	15%
FY08	16%	15%
FY09		15%
FY10		16%

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Questions?

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Access this presentation on our website at:
http://www.saw.usace.army.mil/Currituck%20Sound/main.htm